



BMADS LOGISTICS AND SUPPORTABILITY

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Complementary Low Altitude Weapons System (CLAWS)



Program Office: Air Defense Weapons

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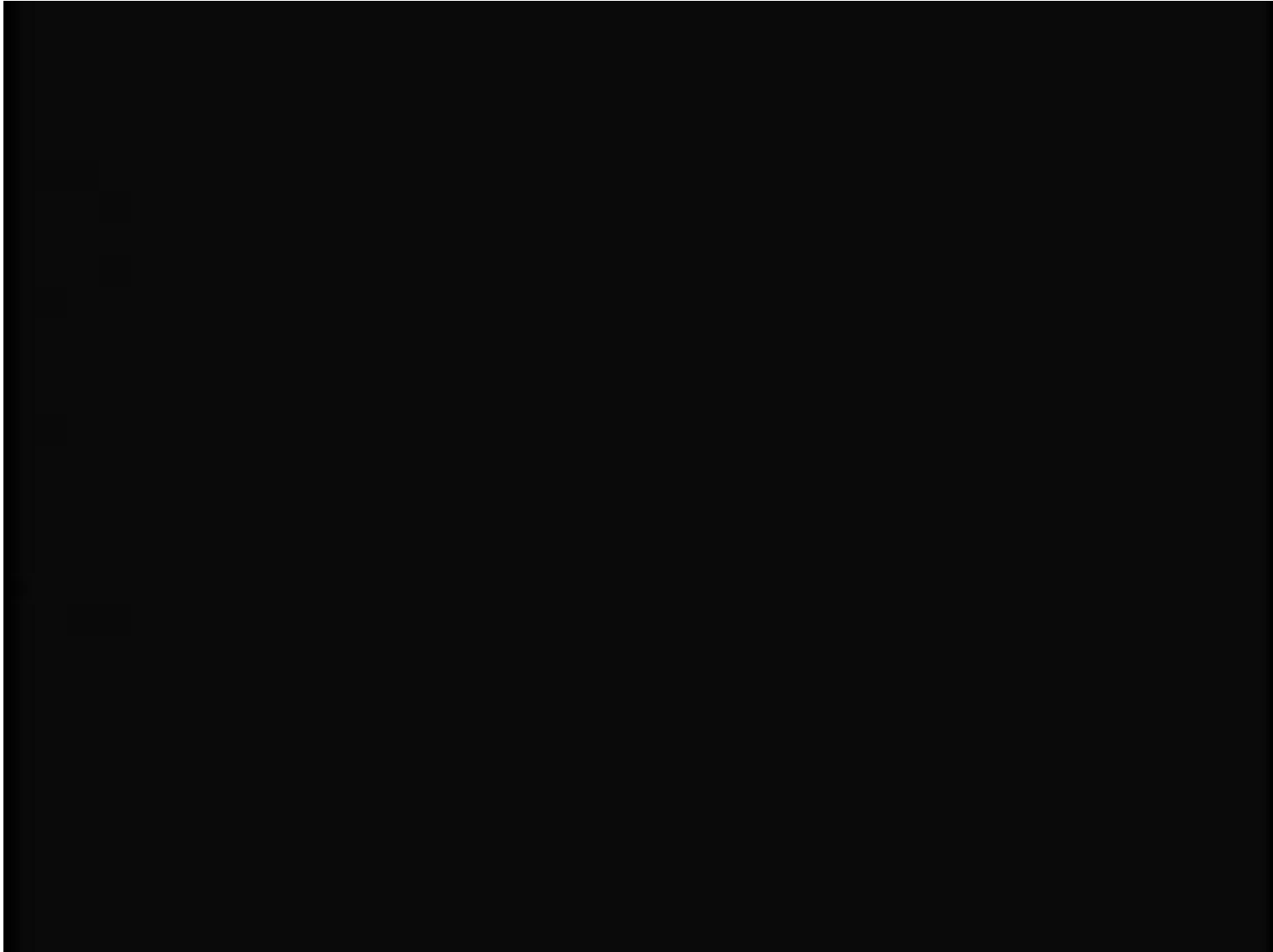
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CLAWS BTV Firing





AGENDA



- Introduction
- System Description and Requirements
- Program Master Schedule
- Family of Systems
- Configuration Concepts
- What's Go'in On
- Logistics
- Extra Stuff
- Questions



SYSTEM DESCRIPTION AND REQUIREMENTS

- Rapidly Deployable, Mobile, High Firepower, all-weather stand-off air defense
- Defend against attack from cruise missiles, fixed and rotary-wing aircraft and UAVs
- Complement existing Stinger-based short range air defense capabilities
- Interface with current and future Marine Air Command and Control System and Amphibious Task Force sensors and data paths
- Use Commercial-Off-the-shelf and Non-Developmental technology including AMRAAM Missile

Mission Needs Statement #AAS43 12/30/92

CLAWS Operational Requirements Document w/ch 5 8/19/02



CLAWS Launcher Hardware

AMRAAM Missile

Launcher Accommodates AIM 120B & AM-120C missiles with no modifications

Low Cost Launch Rails

Provide AMRAAM mechanical Interface

Land Navigation System (LNS)

Provides 3-axis attitude and geographic position data to launcher

Missile Interface Unit (MIU)

Functions as weapons control computer and subsystem communication hub

Distribution Box

Distributes power and electrical signals between LRU's

Remote Terminal Unit (in Cab)

RTU provides human/machine and higher echelon interfaces, and hosts fire control software

Cab)

Provides power distribution, operator-controlled circuit breakers, and elapsed-time

PLGR (2) (in Cab)

One dedicated to RTU to provide UTC time
One dedicated to and controlled by LNS

Data Link Antenna (DLA)

4 quadrant Antenna transmits Uplink message to missile over 360 degree flight envelope

PLGR Antenna

Receives GPS signals

Radome Protection Device

Protects Radome from Road Debris

Mission Batteries (2)

Provides 28 VDC vehicle prime power

DC Conversion Unit (DCU)

Converts 28 VDC vehicle prime power to $\pm 135\text{VDC}$ power for missile and servo motors

AC Conversion Unit (ACU)

Converts commercial AC power to 28 VDC to charge mission batteries

Servo Control Unit (SCU)

Controls Servo position in response to

CLAWS weapon control system

Missile Reloader

Stows onboard launcher for 2-person reload capability

Cable Reel

Provides 50m remote operation capability

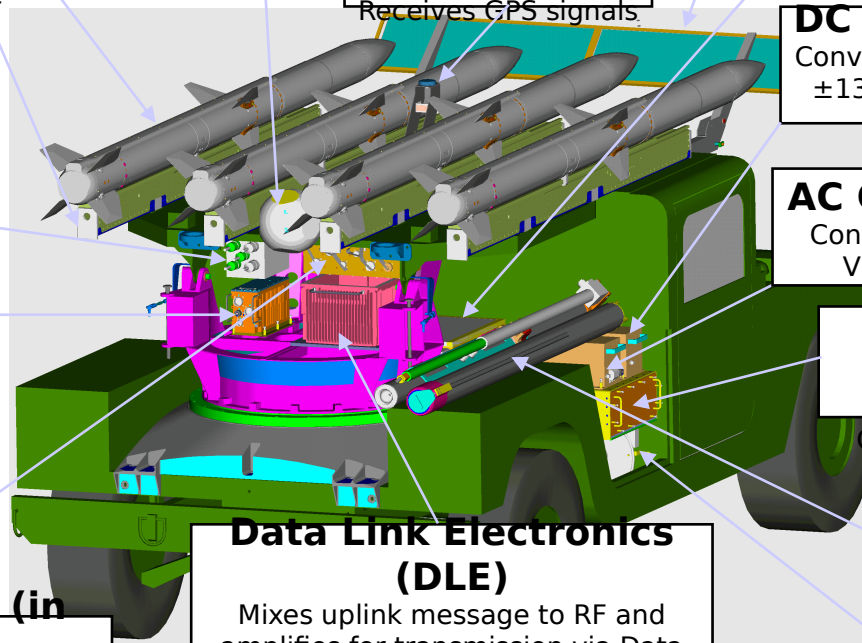
Data Link Electronics (DLE)

Mixes uplink message to RF and amplifies for transmission via Data Link Antenna

SINCGARS (2) (in Cab)

One dedicated to Voice & Mail
One dedicated to Track Data & Commands (GBDL-E)

Connects to external AC.
Supports 6 missiles, built in bustle





CLAWS Program Strategy / Schedule

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Block I									
Sentinel Radar	R&D 4 PRS								
MSCT/ ADCPEP									
GBDL-E					Fielding				
Low End Cruise Missiles									
Fixed Wing Aircraft									
Autonomous Launch Only									
Block II									
Full Objective System				R&D					
CAC2S									
MRRS							Fielding		
Rotary Wing and UAVs									
Unattended Launch									
Joint certified data link									
Full Duplex Radios (J TRS)									
Contract Launchers			4	2	20	20	10	1	TBD
Fielding				0	6	20	20	10	1
Contract Missiles					47	40	100	50	TBD
Fielding						47	40	100	50

26 Launcher fielded by FY07: Implications of CAC2S/MRR



Configuration Concepts

CLAWS Platoon: One per Battalion (12 launchers)

Twelve Training Missiles (CATMs)

Three ATMMs (Tests Missile to Rail connection)

Section: (3 per platoon) 4 Launchers

3rd MAW: 12 IOC FY06 1st Qtr

2nd MAW: 12

1st Stinger: 12

4th MAW: 24



What's Go'in On FY 03/04

- **Developmental Test (ATC & WSMR)**
 - **4 Ballistic Test Vehicle shots FY-03 (Successful)**
 - **Environmental (Now)**
 - **Electro Magnetic Interference (Sept)**
 - **Transportation (TQT II Oct-Nov)**
 - **Family of Systems Test (MCTSSA)
Nov-Jan**
 - **3 Guided Test Vehicle shots (Mar-Jun 04)**



Logistics Issues

- **Contracted Logistics Support (initially 2 years)**
 - **Replacements and Depot repair via Force Logistics (Raytheon)- Five year parts warranty (48 hr turn-a-round) Web based, SASSY and phone-in capable**
 - **Float Block for deployments**

Same or Similar to Sentinel



Logistics Issues

-
- **Structure (Recommended in TRPPM)**
 - **5963 (TAOM repairman) to replace 5937 MOS (everyone gets trained) Potential for more maintenance structure w/IN the LAAD Bns**
 - **Maintenance structure at the Battery level**
 - **Recommended 19 additional billets for SHORAD community**
 - **TRPPM will be staffed to Fleet**
 - **Long Term decisions will be made based on actual data: Training / Maintenance**
 - **School House vs CLS , Depot repair vs CLS**



Logistics Issues

- **Training**

- **OT Training (10 operators/5 maintainers)
MCOTEA requirements?**
- **Fleet On-site training by Raytheon during fielding**
- **MTT (MAWTS, School House, CLS)?**
- **Training in SAT format and input into MCAIMS**



Extra Stuff

Things that make you go Hmmmm?

- *Who will own the Radars (Sentinels) and who will operate them?*

MACS -1(Miramar) LAAD is at Pendleton.

- *How will you train on a daily/weekly basis if you don't have an ADCP-EP or Radar?*
- *Who has priority with the ADCPs? Is MACG CO the referee.*

Questions?